

FIGURE 1. RENILLA RENIFORMIS GFP PROTEIN CODING SEQUENCE

5' PCR primer (bold)

R. ren: 1	ATGGTGAGTAAACA ¹ AAATATTGAAGAACTGGATTGCAGGAGATCATGTCGTTTAAAGTGAATC	64
R. ren: 65	TGGAAGGTGTAGTAAACAATCATGTGTTTACAATGGAAGGTTGTGGAAAAGGAAATATTT	124
R. ren: 125	TATTCGGAAACCAACTGGTTCAGATTCGTGTCACAAAAGGGGTCCCGCTTCCATTTGCAT	184
R. ren: 185	TTGATATTCTCTCACCAGCTTTCCAATACGGCAACCGTACATTCACGAAATACCCGGAGG	244
R. ren: 245	ATATATCAGACTTTTTTATACAATCATTTCCAGCGGGATTTGTATACGAAAGAACGTTGC	304
R. ren: 305	GTTACGAAGATGGTGGACTGGTTGAAATCCGTTTCCAGATATAAATTTAATCGAGGAGATGT	364
R. ren: 365	TTGTCTACAGAGTGGAATATAAAGGTAGTAACTTCCCGAATGATGGTCCAGTGATGAAGA	424
R. ren: 425	AGACAATCACAGGATTACAACCTTCGTTTGAAGTTGTGTATATGAACGATGGCGTCTTGG	484
R. ren: 485	TTGGCCAAGTCATTCTTGTATTATAGATTAACTCTGGCAAATTTTATTCGTGTCACATGA	544
R. ren: 545	GAACACTGATGAAATCAAAGGGTGTAGTGAAGGATTTTCCCGAATACCATTTCATTCAAC	604
R. ren: 605	ATCGTTTAGAGAAGACTGATGTGGAAGACGGAGGTTTTGTTGAGCAACACGAGACGGCCA	664
R. ren: 665	TTGCTCAACTGACATCGCTGGGGAAACCACTTGGATCCTTACACGAATGGGTTTAA	720

3' PCR primer (bold)

FIGURE 2. RENILLA RENIFORMIS AMINO ACID SEQUENCE

(5' primer)

R. reni: 1	MSKQILKNTGLQEIMSFKNLEGVVNNHVFTMEGCGKGNILFGNQLVQIRVTKGAPLPFA	60
R. reni: 61	FDILSPAFQYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLVEIRSDINLIEQM	120
R. reni: 121	FVYRVEYKGSNFPNDGPVMKKTITGLQPSFEVVMNDGVLVGQVILVYRLNSGKFYSCHM	181

(3' primer)

R. reni: 182	RTLKMSKGVVKDFPEYHFIQHRLEKTYVEDGGFVEQHETAIAQLTSLGKLPGSLHEWV	238
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Figure 3. Expression of *R. reniformis* GFP in transduced cells

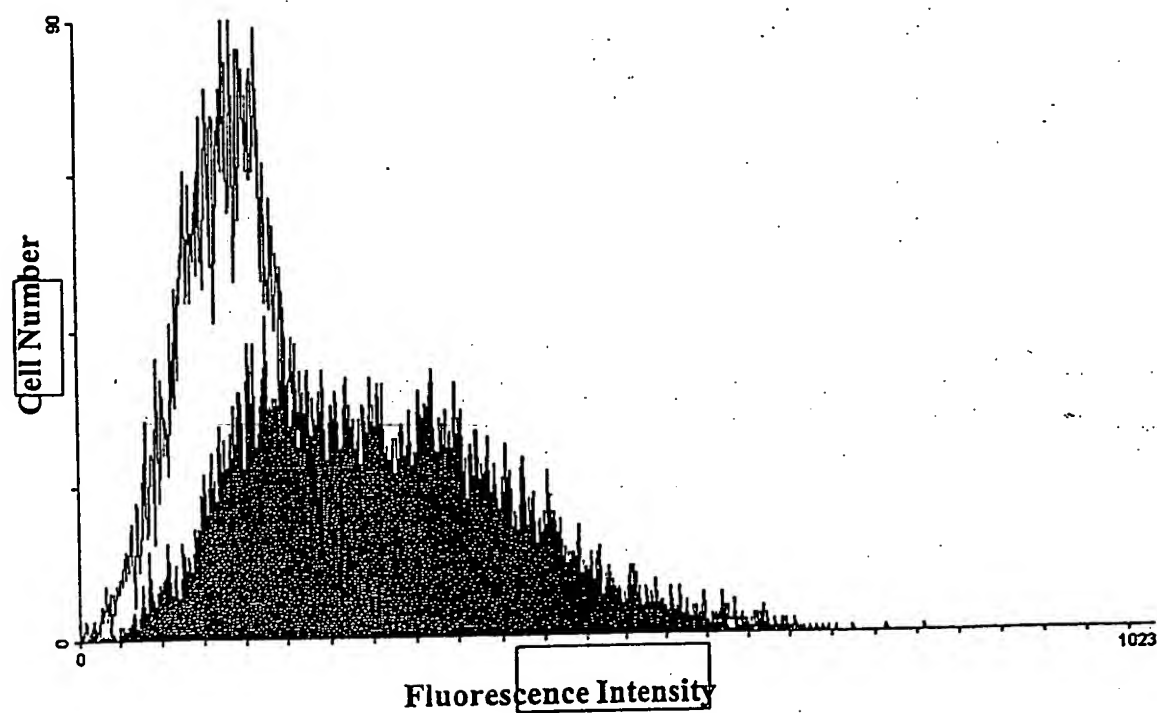


Figure 4. Fluorescence spectra

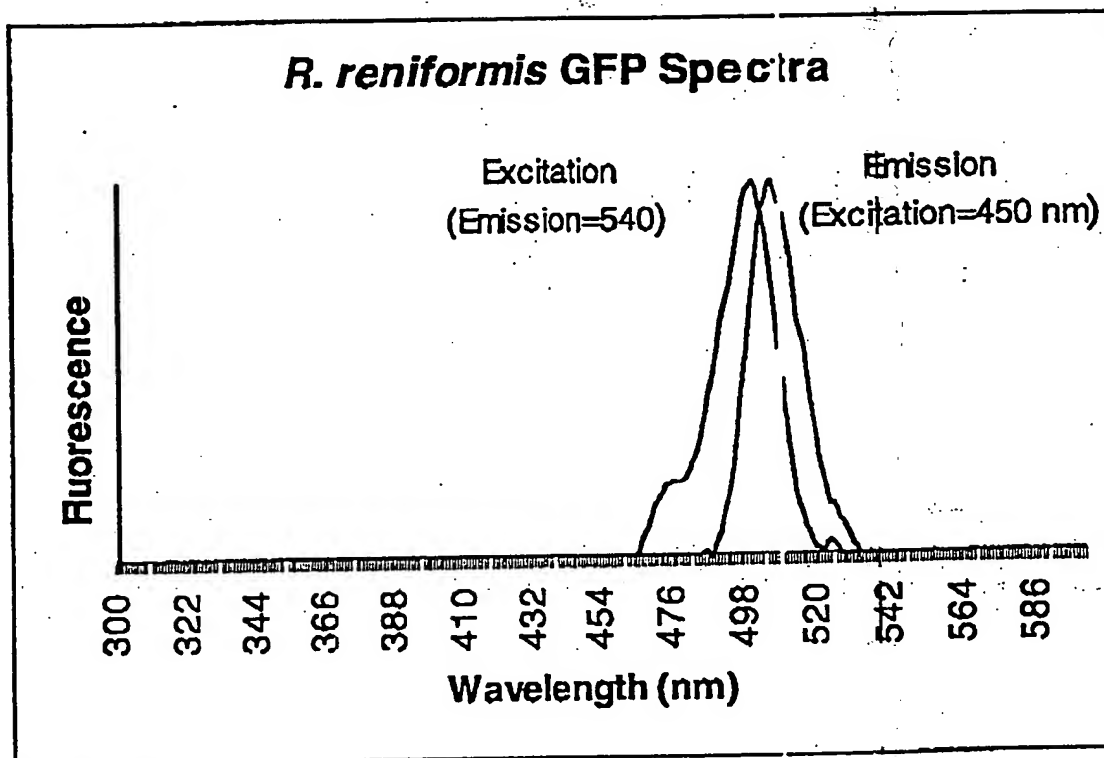


Figure 5. Sequence of a humanized *R. reniformis* GFP polynucleotide (SEQ ID NO: 3).

1 ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAGCTTCAAGGTG
M V S K Q I L K N T G L Q E I M S F K V

61 AACCTGGAGGGCGTGGTGAACAACCACGTGTTACCATGGAGGGCTGCGGCAAGGGCAAC
N L E G V V N N H V F T M E G C G K G N

121 ATCCTGTTCGGCAACCAGCTGGTGCAGATCCGCGTGACCAAGGGCGCCCCCTGCCCTTC
I L F G N Q L V Q I R V T K G A P L P F

181 GCCTTCGACATCCTGAGCCCCGCCTTCCAGTACGGCAACCGCACCTTCACCAAGTACCCC
A F D I L S P A F Q Y G N R T F T K Y P

241 GAGGACATCAGCGACTTCTTCATCCAGAGCTTCCCCGCGGCTTCGTGTACGAGCGCACC
E D I S D F F I Q S F P A G F V Y E R T

301 CTGCGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGATCGAGGAG
L R Y E D G G L V E I R S D I N L I E E

361 ATGTTCTGTGTACCGCTGGAGTACAAGGGCCGCAACTTCCCCAACGACGGCCCCGTGATG
M F V Y R V E Y K G S N F P N D G P V M

421 AAGAAGACCATCACCGGCCTGCAGCCCAGCTTCGAGGTGGTGTACATGAACGACGGCGTG
K K T I T G L Q P S F E V V Y M N D G V

481 CTGGTGGGCCAGGTGATCCTGGTGTACCGCCTGAACAGCGGCAAGTTCTACAGCTGCCAC
L V G Q V I L V Y R L N S G K F Y S C H

544 ATGCGCACCTTGATGAAGAGCAAGGGCGTGGTGAAGGACTTCCCCGAGTACCACTTCATC
M R T L M K S K G V V K D F P E Y H F I

604 CAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTTCGTGGAGCAGCACGAGACC
Q H R L E K T Y V E D G G F V E Q H E T

664 GCCATCGCCCAGCTGACCAGCCTGGGCAAGCCCCTGGGCAGCCTGCACGAGTGGGTGTAA
A I A Q L T S L G K P L G S L H E W V -

rGFP: 1 ATGGTGAGTAAACAAATATTGAAGAACACTGGATTGCAGGAGATCATGTTCGTTTAAAGTG
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hrGFP:1 ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAGCTTCAAGGTG
M V S K Q I L K N T G L Q E I M S F K V

rGFP: 61 AATCTGGAAGGTGTAGTAAACAATCATGTGTTTACAATGGAAGGTTGTGGAAAAGGAAAT
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hrGFP:61 AACCTGGAGGGCGTGGTGAACAACCACGTGTTCCACCATGGAGGGCTGCGGCAAGGGCAAC
N L E G V V N N H V F T M E G C G K G N

rGFP: 121 ATTTTATTCGGAAACCAACTGGTTCAGATTCGTGTACAAAAAGGGGCTCCGCTTCCATT
|| | | | | | | | | | | | | | | | | | | | | | |
hrGFP:121 ATCCTGTTTCGGCAACCAGCTGGTGCAGATCCGCGTGACCAAGGGCGCCCCCTGCCCTTC
I L F G N Q L V Q I R V T K G A P L P F

rGFP: 181 GCATTTGATATTCTCTCACCCAGCTTTCCAATACGGCAACCGTACATTACGAAATACCCG
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hrGFP:181 GCCTTCGACATCCTGAGCCCCGCTTCCAGTACGGCAACCGCACCTTACCAAGTACCCC
A F D I L S P A F Q Y G N R T F T K Y P

rGFP: 241 GAGGATATATCAGACTTTTTTTATACAATCATTTCCAGCGGGATTTGTATACGAAAGAACG
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hrGFP:241 GAGGACATCAGCGACTTCTTCATCCAGAGCTTCCCCGCGCGCTTCGTGTACGAGCGCACC
E D I S D F F I Q S F P A G F V Y E R T

rGFP: 301 TTGCGTTACGAAGATGGTGGACTGGTTGAAATCCGTTTACAGATATAAATTTAATCGAGGAG
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hrGFP:301 CTGCGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGATCGAGGAG
L R Y E D G G L V E I R S D I N L I E E

rGFP: 361 ATGTTTGTCTACAGAGTGAATATAAAGGTAGTAACCTCCCGAATGATGGTCCAGTGATG
||| | | | | | | | | | | | | | | | | | | | | |
hrGFP:361 ATGTTTCGTGTACCGCGTGGAGTACAAGGGCCGCAACTTCCCCAACGACGGCCCCGTGATG
M F V Y R V E Y K G S N F P N D G P V M

rGFP: 421 AAGAAGACAATCACAGGATTACAACCTTCGTTTCGAAGTTGTGTATATGAACGATGGCGTC
||| | | | | | | | | | | | | | | | | | | | | |
hrGFP:421 AAGAAGACCATCACCGGCCTGCAGCCCAGCTTCGAGGTGGTGTACATGAACGACGGCGTG
K K T I T G L Q P S F E V V Y M N D G V

rGFP: 481 TTGGTTGGCCAAGTCATTCTTGTTTATAGATTAACTCTGGCAAATTTTATTCGTGTAC
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hrGFP:481 CTGGTGGGCCAGGTGATCCTGGTGTACCGCCTGAACAGCGGCAAGTTCTACAGCTGCCAC
L V G O V I L V Y R L N S G K F Y S C H

Fig. 6 (cont)

rGFP: 541 ATGAGAACACTGATGAAATCAAAGGGTGTAGTGAAGGATTTTCCCGAATACCATTTCATT
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 hrGFP:544 ATGCGCACCTGATGAAGAGCAAGGGCGTGGTGAAGGACTTCCCCGAGTACCACCTTCATC
 M R T L M K S K G V V K D F P E Y H F I

rGFP: 601 CAACATCGTTTGTAGAGAAGACGTATGTGGAAGACGGAGGTTTTGTTGAGCAACACGAGACG
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 hrGFP:604 CAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTTCGTGGAGCAGCACGAGACC
 Q H R L E K T Y V E D G G F V E Q H E T

rGFP: 661 GCCATTGCTCAACTGACATCGCTGGGGAAACCACTTGGATCCTTACACGAATGGGTTTAA
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 hrGFP:664 GCCATCGCCCAGCTGACCAGCCTGGGCAAGCCCCTGGGCAGCCTGCACGAGTGGGTGTAA
 A I A Q L T S L G K P L G S L H E W V -

Figure 7. Relative fluorescence of CHO cells transduced by retroviral vectors harboring non-humanized or humanized *R. reniformis* GFP.

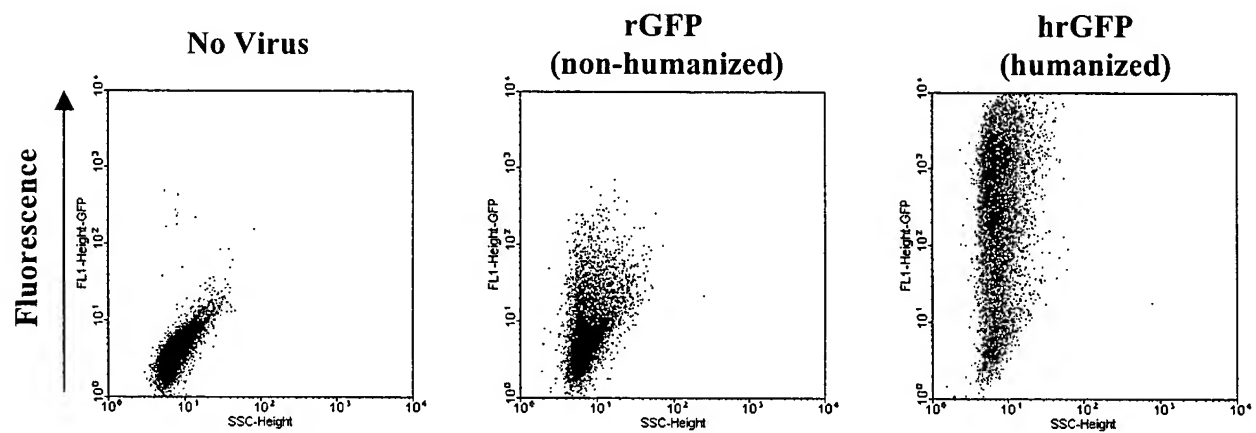


Figure 8. Relative fluorescence of 293 cells harboring single copy proviral integrants from which humanized or non-humanized *R. reniformis* GFP or EGFP are expressed

